	CHONGQING CUMMINS ENGINE PROFORMANCE CURVE	Engine Model **KTA38-C1200**	Characteristic No. **D232025CX02**	
			CPL Code **C-4424-C**	Date **2006-3**

Displacement: 37.7L
Bore: 159mm
Stroke: 159mm
Fuel System: PT Pump
Cylinders: 12

Advertised Power: 716kW@1800 rpm
960HP@1800 rpm
Peak Torque: 3973N.m@1300 rpm
Aspiration: Turbocharged & Inter-cooled
Rating Type: Continuous

General Engine Data

Engine Type	12 Cylinders, V Type
Aspiration	Turbocharger & Intercooled
Bore*Stroke	159*159
Displacement	37.7 L
Compression Ratio	13.8
Engine Wet Weight (Pricing Configuration)	4016 kg
Moment of Inertia of Rotating Components (No Flywheel)	3.96 kg·m2
Center of Gravity from Front Face of Block	831 mm
Center of Gravity above Crankshaft Centerline	279 mm
Ignition Sequence	1R-6L-5R-2L-3R-4L-6R-1L-2R-5L-4R-3L

Engine Mounting

Maximum (Static) Bending Moment at Rear Face of Block	1601 N.m
Moment of Inertia of Complete Engine	TBD N.m

Exhaust System

Maximum Back Pressure	10 kPa
Exhaust Pipe Size Normally Acceptable	152 mm

Air Intake System

Maximum Intake Air Restriction with Heavy Duty Air Cleaner	
— Clean Element	3.74 kPa
— Dirty Element	6.23 kPa
Minimum Dirt Holding Capacity with Heavy Duty Air Cleaner	53 gm.L/s

Lubrication System

Normal Operating Oil Pressure Range	69 – 345 kPa
Lube Oil Flow at Rated Speed	469.4 litre/min.
Maximum Sump Oil Temperature	124 ℃

Oil Pressure:	
— At Rated Speed	310-448 kPa
— At Low Idle	138 kPa
Oil Capacity:	
— High Position	185.49 L
— Low Position	128.7 L
Lube System Capacity(except the Bypass Filter)	201 litre
Max. Oil Consumption	N/A
Angularity of Standard Oil Pan: (Values stated are for intermittent operation only):	
— Front Down	30 º
— Front Up	30º

Cooling System

Coolant Capacity - Engine Only	118 L
Maximum Engine Cooling Circuit External Resistance	34.5 kPa
Minimum Pump Inlet Pressure with Open Thermostat and no Pressure Cap	N/A
Maximum Static Head of Coolant Above Engine Crankshaft Centerline	7.6m
Standard (modulating) Thermostat Range	80-90 ℃
Maximum Block Coolant Pressure with Closed Thermostat and no Pressure Cap	241 kPa
Minimum Pressure Cap	48 kPa
Maximum Engine Coolant Temperature at Engine Outlet	93.3℃
Minimum Engine Coolant Temperature	71.1℃
Minimum Fill Rate	18.9 litre/min
Maximum Initial Fill Time	5 min
Minimum Coolant Expansion Space	5% of System Capacity
Maximum Deaeration Time	25 min.
Minimum Drawdown	20 L

(Drawdown Must Exceed the Volume Not Filled at Initial Fill & Must Not Include Expansion Space)

Electric System

Engine Running Without Load

Cool Start Current CCA	18000 A
Current Capacity When Restart	640KVA
Biggest Resistance Allowed by Starting Circuit:	
—12 V Starter Motor	0.00075 Ω
—24 V Starter Motor	0.002 Ω

Performance Data:

Idle Speed	725 r/min
Maximum No-load Speed	2400 r/min
Maximum Over Speed Ability	2625 r/min
Clutch Joint Effective Torque	3390 N.m
Crankshaft Bearing Load Limit:	

Maximum Clearance Load ……………………………………………………………………….……… 6672 N
Maximum Continuous Load………………………………………………………………….……… 3336 N

Fuel Rating Option used for these Data: FR91536	Max. Power		Continuous Power	
	Max. Power	Max. Torque	Max. Power	Max. Torque
Engine Speed…………………………..… -rpm	2100	1300	1800	1300
Gross Power Output…………………… -kW	895	638	716	541
Torque…………………………….…….. -N.m	4068	4678	3797	3973
Engine Fan Consumed Power				
Engine Power at 38℃(Radiator)……….. KW	28	8.2	24	7.5
Engine Power at 52℃(Radiator)……….. KW	28	8.2	24	7.5
Fuel Line Rated Point Pressure…………. kPa	862	552	655	414
Intake Manifold Pressure………...…… -kPa	145	101	115	78
Mean Effective Pressure…………....… -kW	1358	1558	1268	1324
Mean Piston Speed…………………….. -kPa	11.1	6.9	9.5	6.9
Friction Power…………………………..-kPa	173	60	127	60
Intake Air Flow………………………… -litre/sec	1204	656	876	599
Exhaust Gas Flow				
Dry Type Manifold…………………….. L/s	3162	1907	2322	1694
Wet Type Manifold…………………….. L/s				
Exhaust Temperature				
Dry Type Manifold…………………….. -℃	527	607	529	582
Wet Type Manifold…………………….. -℃				
Heat Rejection to Ambient				
Dry Type Manifold…………………….. -kW	137	96	107	81
Wet Type Manifold…………………….. -kW				
Heat Rejection to Coolant				
Dry Type Manifold…………………….. -kW	568	338	407	272
Wet Type Manifold…………………….. -kW				
Engine Coolant Flow……………….……… -litre/sec	30	18	26	18
Fan Cooling Air Flow				
Air Flow at 38℃(Radiator)…….……….. -L/s	35617	20296	33111	17193
Air Flow at 52℃(Radiator)…….……….. -L/s	33229	18927	30892	16048

Note: All the data are based on engine with Fuel Pump, Water Pump, Oil pump, Air Filter and Muffler, *but not including AC Generator, Air Compressor, Fan and other choose equipment and drive components. Data subject to change without prior notice*